

CLAIMS

1. An inertia locking mechanism for a vehicle door latch, comprising:
an inertia device; and
a biasing means that applies a biasing force on the inertia device to form a transmission path that transmits an unlatching movement from the release lever to release a latch bolt of the latch,
wherein inertia in the inertia device overcomes the biasing force in response to an acceleration force above a predetermined level such that the inertia device moves to interrupt the transmission path.
2. The inertia locking mechanism of claim 1, wherein the transmission path is restored after the acceleration force is removed.
3. The inertia locking mechanism of claim 1, wherein the inertia device is an inertia pawl, and wherein the mechanism further comprises a catch that engages with the inertia pawl to maintain the interruption in the transmission path.
4. The inertia locking mechanism of claim 1, wherein the transmission path linkage comprises a transmission lever.
5. The inertia locking mechanism of claim 4, wherein the transmission lever acts as the inertia device.
6. The inertia locking mechanism of claim 4, further comprising an inertia body operably coupled to the transmission lever to act as the inertia device.
7. The inertia locking mechanism of claim 4, further comprising a guide structure that controls return of the transmission lever to a normal operating position.
8. The inertia locking mechanism of claim 7, further comprising a projection on the transmission lever, wherein the guide structure is a slot that guides movement of the projection.

9. The inertia locking mechanism of claim 8, wherein the slot is disposed on a latch chassis.

10. The inertia locking mechanism of claim 9, wherein the slot has a linear slot portion and an arcuate slot portion.

11. The inertia locking mechanism of claim 9, wherein the slot is substantially U-shaped.

12. The inertia locking mechanism of claim 9, wherein the slot is substantially triangle-shaped.

13. The inertia locking mechanism of claim 7, further comprising a projection on the transmission lever, wherein the guide structure is a notch and an abutment surface on the inertia device.

14. An inertia locking mechanism for a vehicle door latch, comprising:
a power supply;
a motor connected to the power supply for releasing the latch; and
an inertia device coupled between the power supply and the motor to form a transmission path,
wherein an acceleration force above a predetermined level moves the inertia device to break the transmission path.

15. The inertia locking mechanism of claim 4, wherein the inertia device is an accelerometer switch that opens when the acceleration force is above the predetermined level.

16. A vehicle door latch mechanism, comprising:
a release lever;
an inertia device operably coupled to the release lever;
a latch chassis; and
a resilient biasing means that applies a biasing force on the inertia device to form a transmission path that transmits an unlatching movement from the release lever to release a latch bolt of the latch,
wherein inertia in the inertia device overcomes the biasing force in response to an acceleration force above a predetermined level such that the inertia device moves to interrupt the transmission path, and
wherein the transmission path is restored by actuation of the release lever.
17. The vehicle door latch mechanism of claim 16, wherein the transmission path linkage comprises a transmission lever pivotally mounted to the release lever.
18. The vehicle door latch mechanism of claim 17, wherein the transmission lever acts as the inertia device.
19. The vehicle door latch mechanism of claim 17, wherein the inertia device is an inertia body operably coupled to the transmission lever.
20. The vehicle door latch mechanism of claim 19, wherein the inertia body is an inertia pawl, and wherein the transmission path linkage further comprises a catch that engages with the inertia pawl to maintain the interruption in the transmission path.
21. The vehicle door latch mechanism of claim 20, wherein the catch is operably coupled to the release lever such that actuation of the release lever releases the inertia pawl from the catch.
22. The vehicle door latch mechanism of claim 17, further comprising a projection on the transmission lever and a slot disposed on the latch chassis to guide movement of the projection.

23. The vehicle door latch mechanism of claim 22, wherein the slot has a linear slot portion and an arcuate slot portion.

24. The vehicle door latch mechanism of claim 22, wherein the slot is substantially U-shaped.

25. The vehicle door latch mechanism of claim 22, wherein the slot is substantially triangle-shaped.

26. The inertia locking mechanism of claim 17, further comprising a projection on the transmission lever, wherein the guide structure is a notch and an abutment surface on the inertia device.